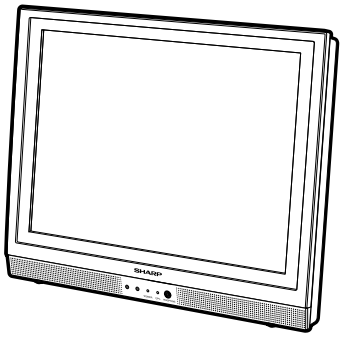
# SHARP SERVICE MANUAL

S44S1LC13S1US



## LCD COLOR TELEVISION

## MODEL LC-13S1U-S

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

### OUTLINE

The above model is based on the LC-13S2U-S. Its desktop stand has been redesigned. This Service Manual covers the modifications only. For other technical data, refer to the Service Manual for LC-13S2U-S (S83G8LC-13S2U).

### CONTENTS

Page

- IMPORTANT SERVICE SAFETY PRECAUTION ..... 2
- SPECIFICATIONS ..... 5
- OPERATION MANUAL ..... 6
- DIMENSIONS ..... 9
- REPLACEMENT PARTS LIST ..... 10
- PACKING OF THE SET ..... 13

SHARP CORPORATION

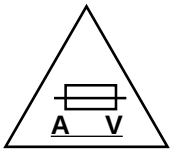
This document has been published to be used for after sales service only.
The contents are subject to change without notice.

# IMPORTANT SERVICE SAFETY PRECAUTION

■ **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

## WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.



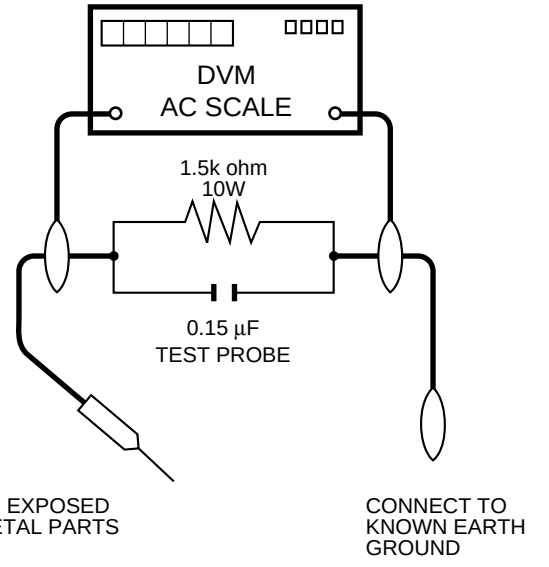

**CAUTION:** FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE F3701 (2.0A, 250V), F3301 (1.25A, 250V), F6501 (1.25A, 250V) AND F6502 (1.25A, 250V) FUSE.

## BEFORE RETURNING THE RECEIVER (Fire & Shock Hazard)

**Before returning the receiver to the user, perform the following safety checks:**

1. Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 110~240 volt AC outlet, and connect the DC power cable into the receiver's DC jack. (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15µF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to an earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
  All checks must be repeated with the AC cord plug connection reversed. (If necessary, a nonpolarized adaptor plug must be used only for the purpose of completing these checks.)
  Any reading of 0.75V peak (this corresponds to 0.5 mA. peak AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.




## SAFETY NOTICE

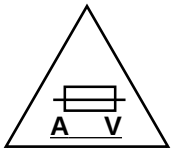
Many electrical and mechanical parts in LCD television have special safety-related characteristics.
These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the ***Replacement Parts Lists*** and ***Schematic Diagrams***.
For continued protection, replacement parts must be identical to those used in the original circuit.
The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire or other hazards.

# PRECAUTIONS A PRENDRE LORS DE LA REPARATION

■ **Ne peut effectuer la réparation qu' un technicien spécialisé qui s'est parfaitement accoutumé à toute vérification de sécurité et aux conseils suivants.**

## AVERTISSEMENT

1. N'entreprendre aucune modification de tout circuit. C'est dangereux.
2. Débrancher le récepteur avant toute réparation.



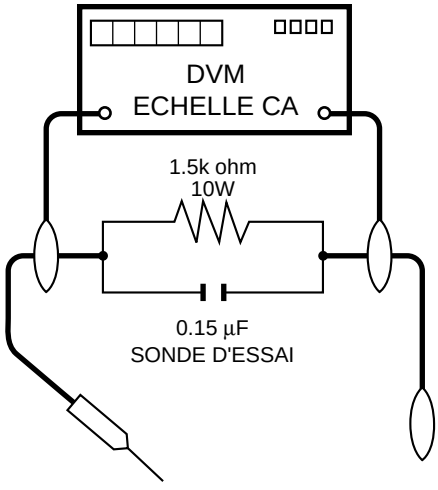

**PRECAUTION**: POUR LA PROTECTION CONTINUE CONTRE LES RISQUES D'INCENDIE, REMPLACER LE FUSIBLE PAR UN FUSIBLE DE MEME TYPE F3701 (2.0A, 250V), F3301 (1.25A, 250V), F6501 (1.25A, 250V), F6502 (1.25A, 250V).

## VERIFICATIONS CONTRE L'INCEN-DIE ET LE CHOC ELECTRIQUE

**Avant de rendre le récepteur à l'utilisateur, effectuer les vérifications suivantes.**

1. Inspecter tous les faisceaux de câbles pour s'assurer que les fils ne soient pas pincés ou qu'un outil ne soit pas placé entre le châssis et les autres pièces métalliques du récepteur.
2. Inspecter tous les dispositifs de protection comme les boutons de commande non-métalliques, les isolants, le dos du coffret, les couvercles ou blindages de réglage et de compartiment, les réseaux de résistance-capacité, les isolateurs mécaniques, etc.
3. S'assurer qu'il n'y ait pas de danger d'électrocution en vérifiant la fuite de courant, de la facon suivante:

- Brancher le cordon d'alimentation directem-ent à une prise de courant de 110-240V. (Ne pas utiliser de transformateur d'isolation pour cet essai).
- A l'aide de deux fils à pinces, brancher une résistance de 1.5kΩ 10 watts en parallèle avec un condensateur de 0.15µF en série avec toutes les pièces métalliques exposées du coffret et une terre connue comme une conduite électrique ou une prise de terre branchée à la terre.
- Utiliser un voltmètre CA d'une sensibilité d'au moins 5000Ω/V pour mesurer la chute de tension en travers de la résistance.
- Toucher avec la sonde d'essai les pièces métalliques exposées qui présentent une voie de retour au châssis (antenne, coffret métallique, tête des vis, arbres de commande et des boutons, écusson, etc.) et mesurer la chute de tension CA en-travers de la résistance. Toutes les vérifications doivent être refaites après avoir inversé la fiche du cordon d'alimentation. (Si nécessaire, une prise d'adpatation non polarisée peut être utilisée dans le but de terminer ces vérifications.)
  Tous les courants mesurés ne doivent pas dépasser 0.5 mA.
  Dans le cas contraire, il y a une possibilité de choc électrique qui doit être supprimée avant de rendre le récepteur au client.




## AVIS POUR LA SECURITE

De nombreuses pièces, électriques et mécaniques, dans les téléviseurs présentent des caractéristiques spéciales relatives à la sécurité, qui ne sont souvent pas évidentes à vue. Le degré de protection ne peut pas être nécessairement augmentée en utilisant des pièces de remplacement étalonnées pour haute tension, puissance, etc.
Les pièces de remplacement qui présentent ces caractéristiques sont identifiées dans ce manuel; les pièces électriques qui présentent ces particularités sont identifiées par la marque " ⚠ " et hachurées dans la liste des pièces de remplacement et les diagrammes schématiques.
Pour assurer la protection, ces pièces doivent être identiques à celles utilisées dans le circuit d'origine. L'utilisation de pièces qui n'ont pas les mêmes caractéristiques que les pièces recommandées par l'usine, indiquées dans ce manuel, peut provoquer des électrocutions, incendies, radiations X ou autres accidents.

# Precautions for using lead-free solder

**1 Employing lead-free solder**

"All PWBs" of this model employs lead-free solder. The LF symbol indicates lead-free solder, and is attached on the PWBs and service manuals. The alphabetical character following LF shows the type of lead-free solder.
Example:

Indicates lead-free solder of tin, silver and copper.

**2 Using lead-free wire solder**

When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.
As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40°C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

**3 Soldering**

As the melting point of lead-free solder (Sn-Ag-Cu) is about 220°C which is higher than the conventional lead solder by 40°C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.
Lead-free solder contains more tin, and the end of the soldering bit may be easily corroded. Make sure to turn on and off the power of the bit as required.
If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.
When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

Be careful when replacing parts with polarity indication on the PWB silk.

Lead-free wire solder for servicing

| Part No, | ★ | Description | Code |
|---|---|---|---|
| ZHNDAi123250E | J | ϕ0.3mm 250g(1roll) | BL |
| ZHNDAi126500E | J | ϕ0.6mm 500g(1roll) | BK |
| ZHNDAi12801KE | J | ϕ1.0mm 1kg(1roll) | BM |

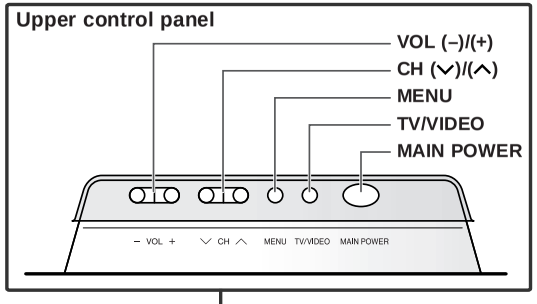
# SPECIFICATIONS

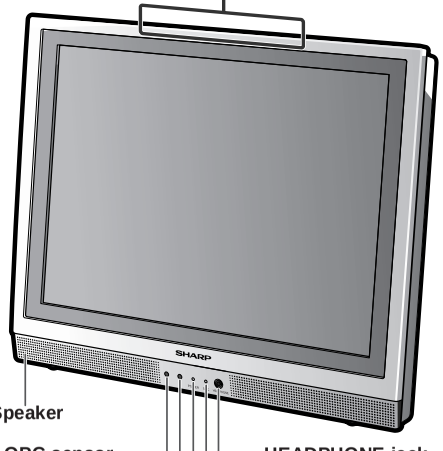
| Items / Model | | LC-13S1U |
|---|---|---|
| LCD panel | | 13" Advanced Super View& BLACK TFT LCD |
| Number of dots | | 921,600 dots VGA |
| Video color systems | | N358, N443, PAL, PAL-M, PAL-N, SECAM, PAL-60 |
| TV function | TV Standard (CCIR) | NTSC/PAL-M/PAL-N |
| | TV Tuning System | PLL 181 ch. |
| | STEREO | MTS+SAP |
| | CATV | 125 ch. |
| Y/C FILTER | | 3-LINE COMB FILTER |
| Brightness | | 430 cd/m$^2$ |
| Viewing angles | | H: 170° V: 170° |
| Audio amplifier | | 2.1 W x 2 |
| Speakers | | 3 x 7.5 cm, 2 pcs. |
| Terminals | AV-IN1 | AV-IN1, S-VIDEO-IN |
| | AV-IN2 | AV-IN2, S-VIDEO-IN/AV-OUT |
| | COMPONENT | COMPONENT-IN, AUDIO-IN |
| | Antenna | F-Type |
| | Headphone | Mini-jack for stereo (ø3.5 mm) |
| OSD language | | English/French/Spanish |
| Power supply | | DC 12 V, AC 110–240 V, 50/60 Hz (AC Adapter), AC 125V MAX (AC Cord) |
| Power consumption | | 39 W (0.5 W Standby)AC 120 V(with AC adapter) |
| | | 34 W: DC 12 V |
| Weight | | 7.9 lbs. (3.6 kg),w/o accessories |
| Accessories | | Remote control, Battery (x2), Antenna cable, AC adapter, AC cord, Cable clamp, Operation manual |

As a part of policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

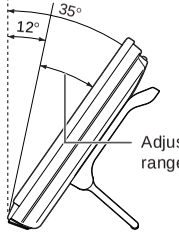
# DISPLAY AND CONTROL OVERVIEW

## Controls




The screen can be adjusted backwards to an angle between 12 degrees and 35 degrees. The screen cannot be set up straight. When changing the angle, make sure to hold the stand and adjust the screen to the best viewable angle.




Speaker

OPC sensor

**HEADPHONE jack**
Plug the headphone mini-plug into the HEADPHONE jack located on the front of the TV set.

Remote control sensor

**OPC indicator (Optical Picture Control)**
The Optical Picture Control indicator lights up green when the BRIGHTNESS is set to AUTO.

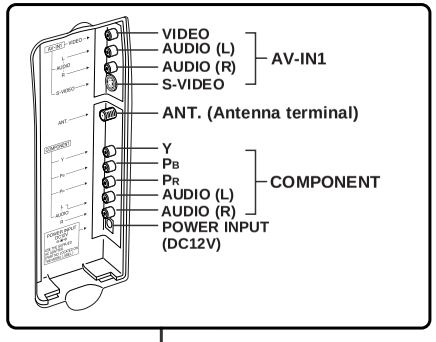
**POWER indicator**
A green indicator lights when the power is on and a red indicator lights when in the standby mode (the indicator will not light when the main power is off).

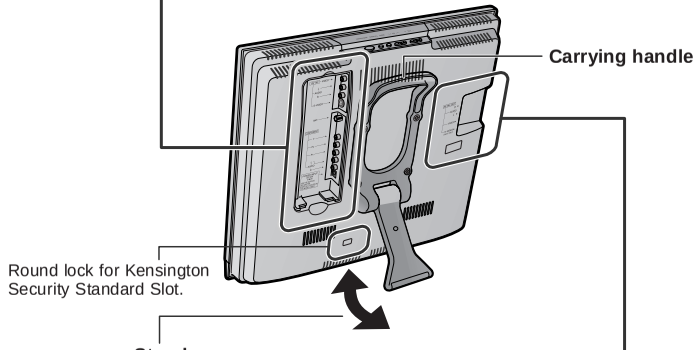
* The examples used throughout this manual are based on the LC-20S1U model.

**NOTE**

- **TV/VIDEO**, **CH (∨)/(∧)**, **VOL (–)/(+)**, and **MENU** on the main unit have the same functions as the same buttons on the remote control. Basically, this operation manual provides a description based on operation with the remote control.

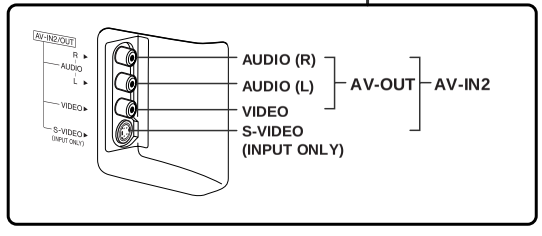
## Terminals



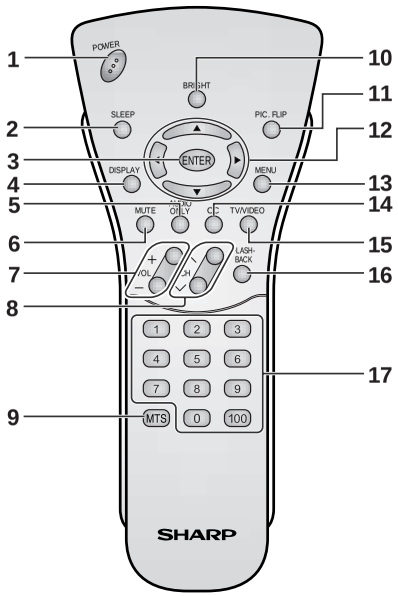




- The screen can be adjusted backwards to an angle between 12 and 35 degrees. When changing the angle, make sure to hold the stand and adjust to the best viewable angle.

* Be careful to prevent the product from falling over when adjusting the angle. Also place the product on a stable base.



## REMOTE CONTROL




**1 POWER**
Switch the Liquid Crystal Television power on or off.

**2 SLEEP**
Set the sleep timer.

**3 ENTER**
Execute a command.

**4 DISPLAY**
Display the channel and time information.

**5 AUDIO ONLY**
Output audio without screen image.

**6 MUTE**
Mute the sound.

**7 VOL (+)/(–)**
Set the volume.

**8 CH (∧)/(∨)**
Select channel.

**9 MTS**
Select audio settings.

**10 BRIGHT**
Adjust the brightness of the screen.

**11 PIC. FLIP**
Set the orientation of the picture.

**12 ▲/▼/◀/▶ (Cursor control)**
Select a desired item on the screen.

**13 MENU**
Display the menu screen.

**14 CC**
Display Closed Caption subtitles.

**15 TV/VIDEO**
Select a Liquid Crystal Television input source.

**16 FLASHBACK**
Return to the previous channel.

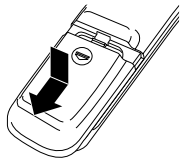
**17 Channel Select**
Set the channel.

## PREPARATION

### Batteries for the Remote Control

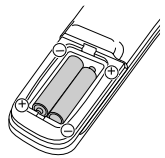
Before using the LCD TV set for the first time, install two (“AAA” size) batteries (supplied). When the batteries become depleted and the remote control fails to operate, replace the batteries with new (“AAA” size) batteries.

**1** Open the battery cover.



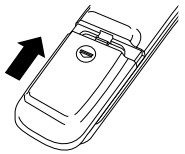
■ Slide the cover while pressing the (▾) part.

**2** Insert two (“AAA” size) batteries.



■ Position the positive and negative ends of the batteries as indicated in the compartment.

**3** Close the battery cover.



■ Engage the claw on the cover into the battery housing and slide shut.

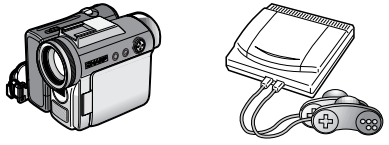
# CONNECTING EXTERNAL DEVICES

You can enjoy picture and sound by connecting a VCR or a home video game system to the terminals located on the rear of the TV set.
When connecting an external device, turn off the power of the main unit first to prevent any possible damage.

## Example of external devices that can be connected

**To AV-IN1 terminal**

<Example>
- Camcorder
- Home video game system



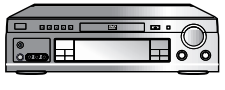
* If your external device has an S-video terminal, S-VIDEO connection is recommended.

**To AV-IN2 terminal**

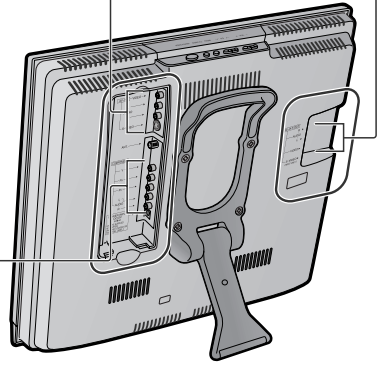
<Example>
- VCR
- Laser disc player

**To COMPONENT terminal**

<Example>
- DVD Player, etc.
  Playback from 480 progressive output for DVD and DTV is available.

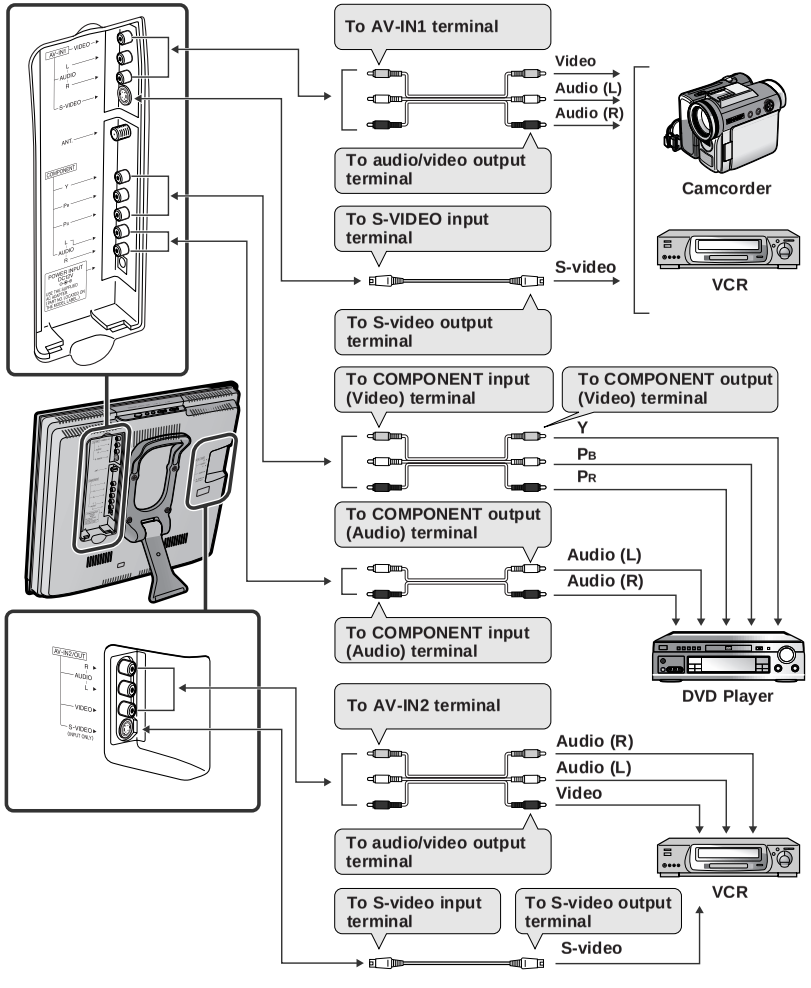


* If your external device has a component terminal, COMPONENT connection is recommended (you can view high-quality pictures).



**NOTE**
- PC connection is not possible.
- For the cable, use a commercially available audio/video cable.
- Only connect audio/video signals to AV-IN1 and 2 terminals. Connecting other signals may result in a malfunction.
- AV-IN1 has 2 video input terminals: VIDEO and S-VIDEO. When you connect external devices to both terminals (and if you select AV-IN1), you can only view pictures from the S-VIDEO terminal. To view the picture from the VIDEO terminal, do not connect any external device to the S-VIDEO terminal.
- For more information about external device connections, see the manuals of your external devices.
- If HDTV (720P/1080I) signals are input to the COMPONENT terminals, “NOT COMPATIBLE WITH THIS SIGNAL” will appear and playback cannot be viewed.

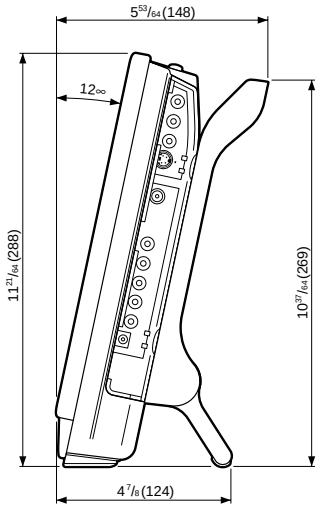
## Connecting a VCR, DVD player or a video camera (AV-IN1/2/COMPONENT)

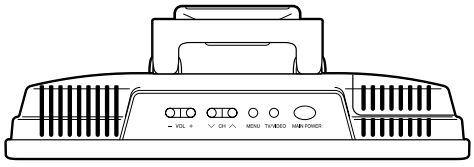


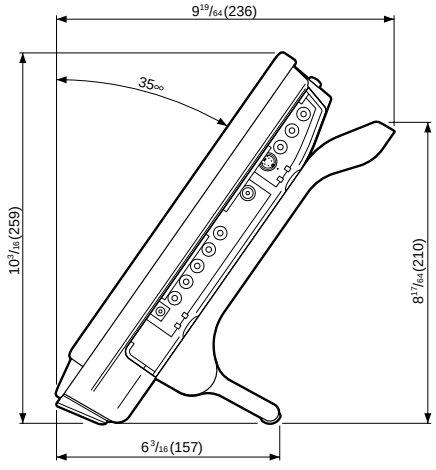

**NOTE**
- If your VCR (or other external devices) has an S-video terminal, S-VIDEO connection is recommended. (Use an S-video cable.)
- When you connect external devices to both S-VIDEO and VIDEO terminals (and if you select AV-IN1), you can only view pictures from the S-VIDEO terminal.
- You cannot view multiple or synthesized pictures by connecting two or more external devices. When connecting an external device, use care to connect the video and audio cables to the corresponding terminals.

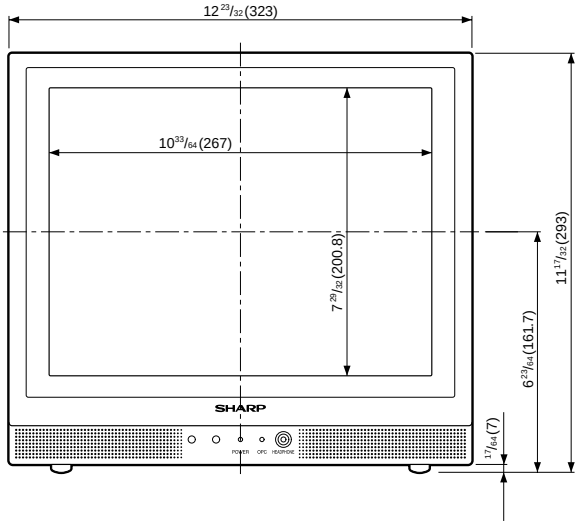
# DIMENSIONS

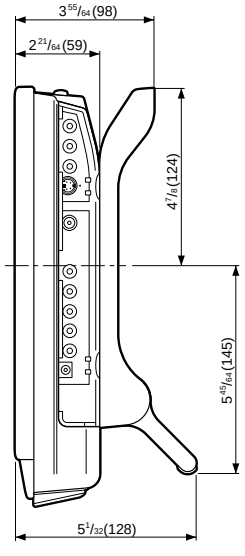
Unit: inch (mm)

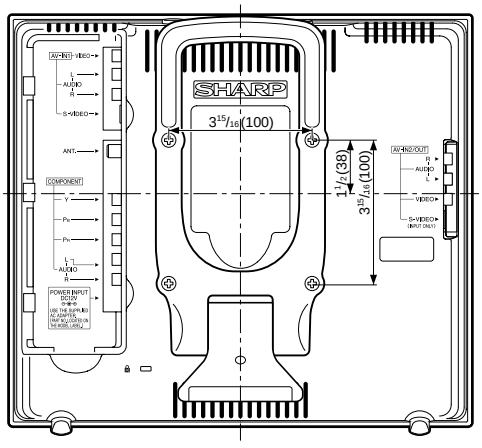




# PARTS LIST

## PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual ; electrical components having such features are identified by ⚠ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which does no have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

### "HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

in **USA**: Contact your nearest SHARP Parts Distributor to order. For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

★ MARK: SPARE PARTS-DELIVERY SECTION

# LISTE DES PIECES

## CHANGE DES PIECES

Les pi`eces de rechange qui pr élelesentent ces caract éleristiques sp éleciales de s élecurit éle, sont identifi élees dans ce manuel : les pi`eces élelectriques qui pr élesentent ces particularit éles, sont rep éler élee par la marque ⚠ et sont hachur élees dans les listes de pi`eces et dans les diagrammes sch élematiques.
La substitution d'une pi`ece de rechange par une autre qui ne pr éLesente pas les m éoemes caract éLeristiques de s élecurit éle que la pi`ece recommand élee parl'usine et dans ce manuel de service, peut provoquer une éLelectrocution, un incendie ou toutautre sinistre.

### "COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

1. NUMERO DU MODELE 2. NO. DE REF
3. NO. DE PIECE 4. DESCRIPTION

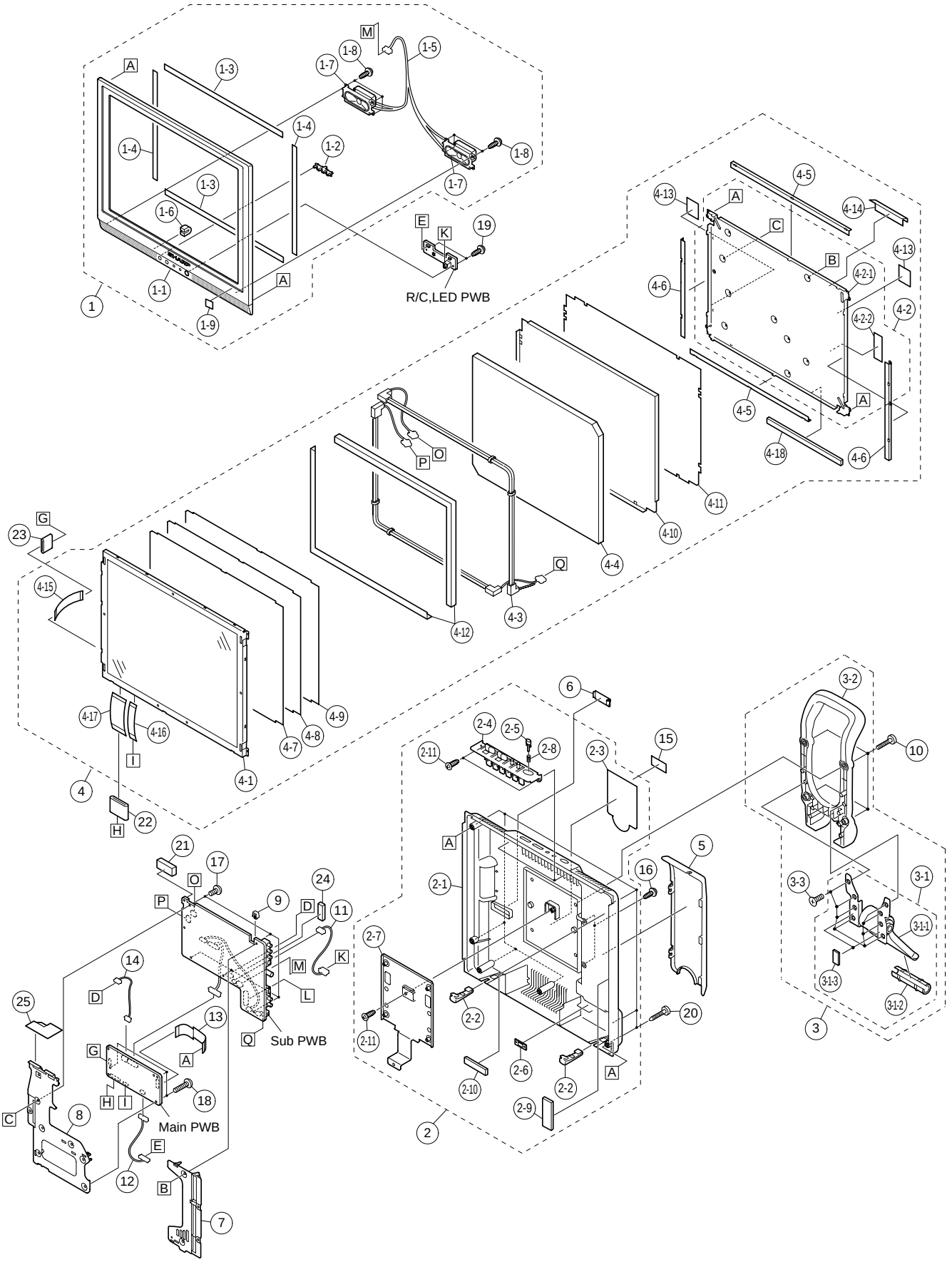
in **CANADA**: Contact SHARP Electronics of Canada Limited
Phone (416) 890-2100

★ MARQUE: SECTION LIVRAISON DES PIECES DERECHANGE

## CABINET AND MECHANICAL PARTS

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| 1 | CCABAA375WJ05 | J | Cabinet A Ass'y | BE |
| 1-1 | *Not Available* | – | Cabinet A | — |
| 1-2 | HDECQA269WJSA | J | R/C, LED Cover | AE |
| 1-3 | PSPAHA061WJZZ | J | Space(L), x2 | AC |
| 1-4 | PSPAHA062WJZZ | J | Space(S), x2 | AC |
| 1-5 | QCNW-B662WJQZ | J | Connecting Cord(SP) | AH |
| 1-6 | QEARZ0047CEZZ | J | Grounding Part | AC |
| 1-7 | VSP7530PB628B | J | Speaker, x2 | AN |
| 1-8 | XEBSN30P08000 | J | Screw, x6 | AA |
| 1-9 | TLABZA635WJZZ | J | "Energy Star" Label | AC |
| 2 | CCABBA270WJ01 | J | Cabinet B Ass'y | BD |
| 2-1 | *Not Available* | – | Cabinet B | — |
| 2-2 | GLEGGA027WJSA | J | Rubber Leg, x2 | AF |
| 2-3 | HiNDPA543WJSA | J | Model Label | AF |
| 2-4 | JBTN-A183WJKA | J | Operation Button | AK |
| 2-5 | JBTN-A186WJKA | J | Power Button | AF |
| 2-6 | LANGF2155CEFW | J | Round Lock | AD |
| 2-7 | LANGTA080WJFW | J | Reinforcement Angle | AM |
| 2-8 | MSPRCA015WJFW | J | Power Button Spring | AB |
| 2-9 | PMLT-A091WJZZ | J | Light Shielding Spacer, x1 | AC |
| 2-10 | PMLT-0402CEZZ | J | Light Shielding Spacer, x1 | AC |
| 2-11 | XEBSN30P08000 | J | Screw, x3 | AA |
| 3 | CDAi-A089WJ01 | J | Stand Ass'y | BC |
| 3-1 | CDAi-A089WJ02 | J | Stand Base Ass'y | AZ |
| 3-1-1 | *Not Available* | – | Stand Base | — |
| 3-1-2 | GLEGGA029WJSA | J | Rubber Leg, x1 | AF |
| 3-1-3 | PSPAZA083WJZZ | J | Spacer, x2 | AB |
| 3-2 | JHNDPA004WJSA | J | Stand Handle | AT |
| 3-3 | XESSN40P10000 | J | Screw, x8 | AB |
| 4 | *Not Available* | – | 13" LCD Panel Unit Ass'y | — |
| 4-1 | RLCDTA023WJZZ | J | 13" LCD Panel Unit | CQ |
| 4-2 | *Not Available* | – | Back Shield Ass'y | — |
| 4-2-1 | PSLDMA253WJFW | J | Back Shield | AP |
| 4-2-2 | TCAUZA031WJZZ | J | Caution Label | AB |
| ⚠ 4-3 | KLMP-0120CEZZ | J | Lamp Unit | BD |
| 4-4 | PGiDMA010WJZZ | J | Light Guide Plate | AY |
| 4-5 | PMiR-0292CEZZ | J | Reflection Mirror(L), x2 | AG |
| 4-6 | PMiR-0293CEZZ | J | Reflection Mirror(S), x2 | AF |
| 4-7 | PSHEP0276CEZZ | J | Reflection/deflection Sheet | BB |
| 4-8 | PSHEPA143WJZZ | J | Prism Sheet | AV |
| 4-9 | PSHEP0278CEZZ | J | Diffuison Sheet | AL |
| 4-10 | PSHEP0279CEZZ | J | Reflection Sheet-1 | AG |
| 4-11 | PSHEP0280CEZZ | J | Reflection Sheet-2 | AG |
| 4-12 | PSHEP0306CEZZ | J | Reflection Sheet(Cover) | AC |
| 4-13 | PSLDMA284WJZZ | J | Shield, x2 | AE |
| 4-14 | PSPAKA014WJZZ | J | Spacer, x1 | AD |
| 4-15 | QCNW-B531WJQZ | J | Connecting Cord | AD |
| 4-16 | QCNW-B532WJQZ | J | Connecting Cord | AF |
| 4-17 | QCNW-B779WJQZ | J | Connecting Cord | AE |
| 4-18 | PMLT-A074WJZZ | J | Light Shielding Spacer, x1 | AD |
| 5 | GCOVAA502WJKA | J | Terminal Cover | AH |
| 6 | GCOVAA505WJKA | J | Bass Cone Cover | AD |
| 7 | LCHSMA050WJKA | J | Chassis Frame(R) | AK |
| 8 | LCHSMA055WJKA | J | Chassis Frame(L) | AL |
| 9 | LHLDZA251WJKZ | J | Power Button Holder | AD |
| 10 | LX-BZ3442CEF9 | J | Screw, x4 | AB |
| 11 | QCNW-B528WJQZ | J | Connecting Cord | AG |
| 12 | QCNW-B529WJQZ | J | Connecting Cord | AG |
| 13 | QCNW-B534WJQZ | J | Connecting Cord | AF |
| 14 | QCNW-B535WJZZ | J | Connecting Cord | AH |
| 15 | *Not Available* | – | Serial No. Label | — |
| 16 | XBBS930P05000 | J | Screw, x2 | AA |
| 17 | XBPSN30P10JS0 | J | Screw, x5 | AB |
| 18 | XBPSN30P18JS0 | J | Screw, x3 | AA |
| 19 | XEBSN30P08000 | J | Screw, x2 | AA |
| 20 | XEBS930P14000 | J | Screw, x7 | AA |
| 21 | PMLT-0401CEZZ | J | Light Shielding Spacer | AB |
| 22 | RCORFA009WJZZ | J | Ferrite Core, x1 | AH |
| 23 | RCORFA031WJZZ | J | Ferrite Core, x1 | AH |
| 24 | QEARZA045WJZZ | J | Grounding Part, x1 | AF |
| 25 | PSPAKA031WJZZ | J | Spacer, x1 | AD |

# CABINET AND MECHANICAL PARTS



## SUPPLIED ACCESORIES

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| | LHLDWA002WJSB | J | Cable Clamp, x1 | AD |
| ⚠ | QACCDA023WJPA | J | AC Cord | AK |
| | QCNWG0003CEPA | J | Antenna Cable | AM |
| | RRMCGA174WJSA | J | Infrared R/C Unit | AS |
| | TCADEA028WJZZ | J | Questionnaire Card | AE |
| | TiNS-A836WJZZ | J | Operation Manual | AT |
| ⚠ | UADP-A044WJPZ | J | AC Adapter | BC |

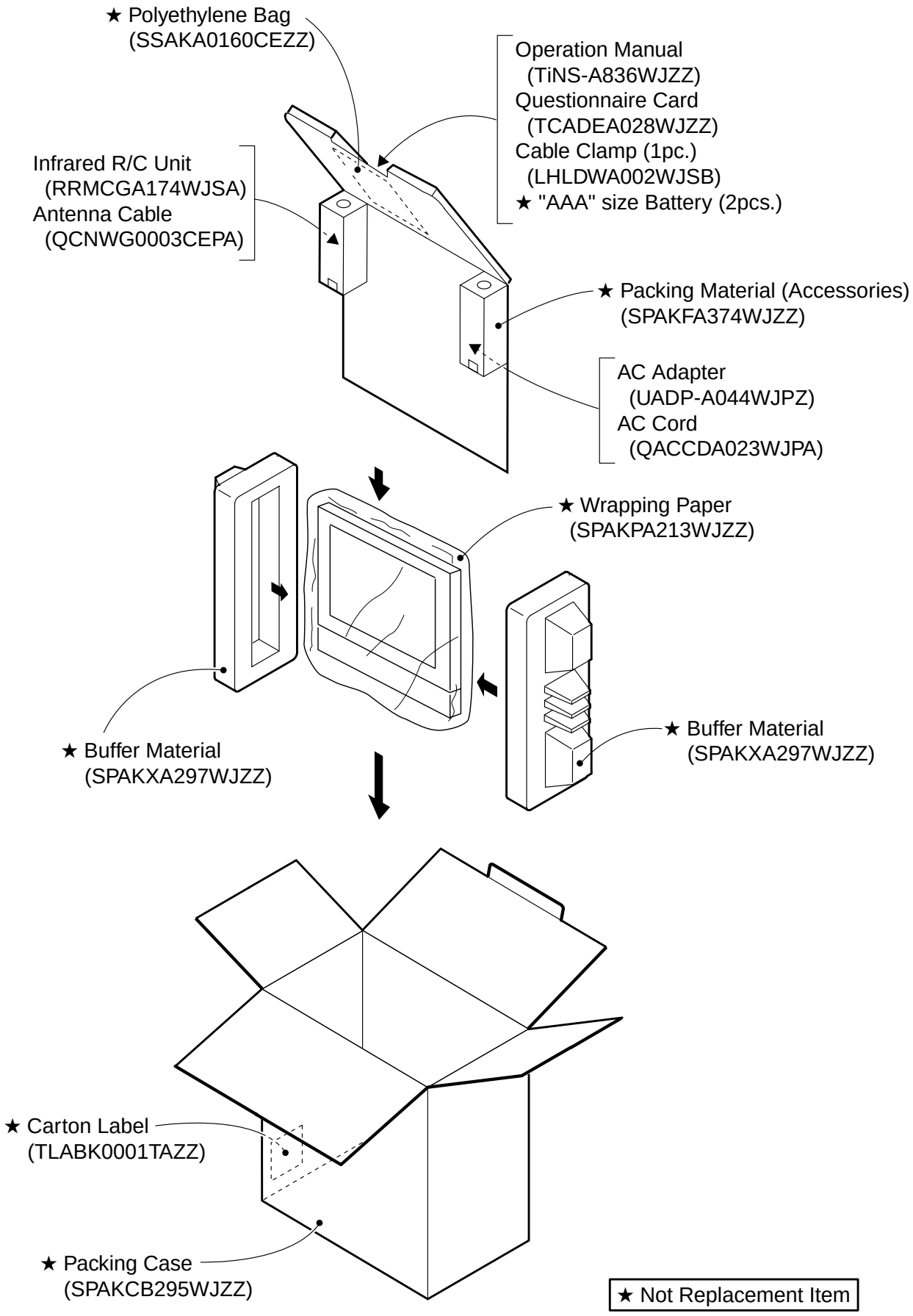
## SERVICE JIGS
### *(USE FOR SERVICING)*

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| | QCNW-A553WJZZ | J | Extension Cable 30-pin (SC1204-LCD) | BA |
| | QCNW-A555WJZZ | J | Extension Cable 20-pin (SC1202-LCD) | AU |
| | QCNW-A556WJZZ | J | Extension Cable 50-pin (SC2001-SC3401) | AU |

## PACKING PARTS
### *(NOT REPLACEMENT ITEM)*

| Ref. No. | Part No. | ★ | Description | Code |
|---|---|---|---|---|
| | SPAKCB295WJZZ | – | Packing Case | — |
| | SPAKFA374WJZZ | – | Packing Material (Accessories) | — |
| | SPAKPA213WJZZ | – | Wrapping Paper | — |
| | SPAKXA297WJZZ | – | Buffer Material | — |
| | SSAKA0160CEZZ | – | Polyethylene Bag | — |
| | TLABK0001TAZZ | – | Carton Label | — |

# PACKING OF THE SET




★ Not Replacement Item

SHARP

**COPYRIGHT © 2004 BY SHARP CORPORATION**

ALL RIGHTS RESERVED.

No part of this publication may be reproduced,
stored in a retrieval system, or transmitted in
any form or by any means, electronic, mechanical,
photocopying, recording, or otherwise, without
prior written permission of the publisher.

TQ1746-S
May 2004 Printed in Japan

| Design and Production Information |
| --- |
| Design : Japan |
| Production : Japan |

MI. KG

SHARP CORPORATION
AV Systems Group
Quality & Reliability Control Center
Yaita, Tochigi 329-2193, Japan